

Application No. 10/023,265
Docket No. 2000U057.US
Reply to Office Action Dated May 06, 2004

Amendments to the Claims

page 1, before the first paragraph:

--CROSS-REFERENCE TO RELATED APPLICATION

The present application claims priority to Provisional U.S. Application U.S.S.N. 60/258,482 filed on December 28, 2000, which is herein incorporated by reference.--

page 2, first paragraph:

(Amended) For US purposes the following references are mentioned: US 4,845,067; US 4,999,327; ~~JP 1126111~~; US 4,508,842; and UK 1015054.

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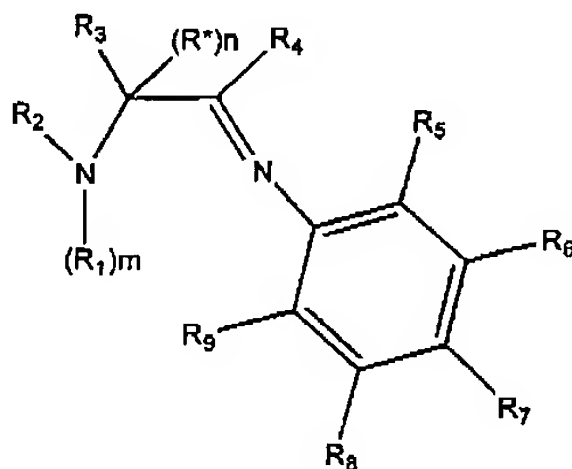
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-13 (Cancelled)

14. (Currently amended) An A polymerization catalyst comprising a combination of at least one activator and a reaction product of a transition metal compound with a tridentate ligand generating composition represented by a formula of:



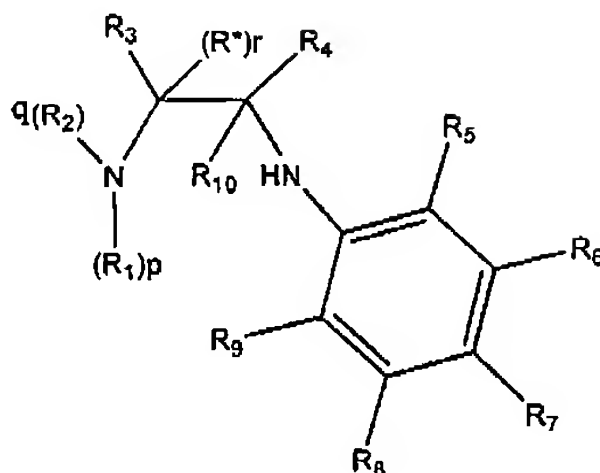
(I)

or

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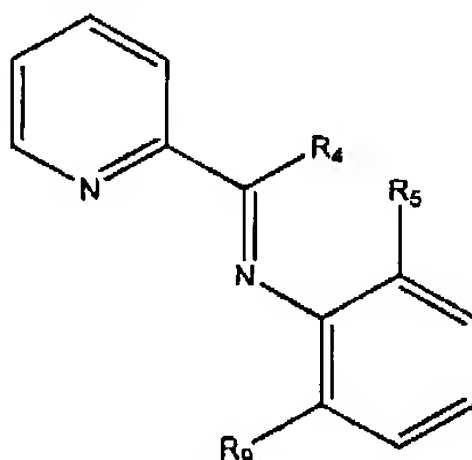
wherein: R₂ and R₃ are hydrocarbyl radicals or substituted hydrocarbyl radicals, R₅ - R₈ are each, independently, hydrogen, a hydrocarbyl radical or a substituted hydrocarbyl radical; one of R₁, R₂, R₃, R₄, or R₉ is a radical that contains a Group 16 atom and R* is a hydrocarbyl radical or substituted hydrocarbyl radical when R₁ is a radical that contains a Group 16 atom, otherwise R₁, R₂, R₃, R₄, R₉ and R* are each, independently, hydrogen, a hydrocarbyl radical or a substituted hydrocarbyl radical; and for formula (I) m and n are values of 0 or 1, and when m is 0 and n is 0 R₂ and R₃ may be joined together to form an aromatic ring structure, and when n is 0 and m is 1 R₂ and R₃ may be joined together to form ring structures; any two adjacent groups of R₅ to R₉ may be joined together to form ring structures; for formula (II) R₁ through R₉ and R* are as explained above and R₁₀ is hydrogen, a hydrocarbyl radical or a substituted hydrocarbyl radical; and p, q and r are values of 0 or 1 wherein p is 0 only when q is 1 and r is 0.

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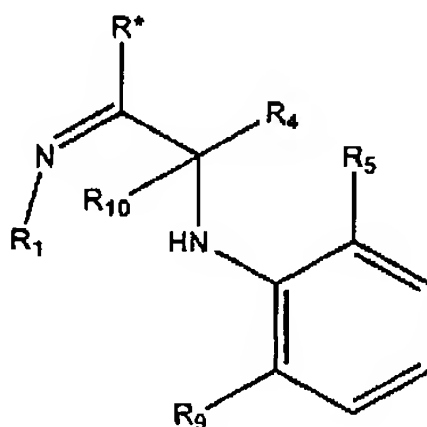
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15. (Original) The polymerization catalyst of claim 14 wherein the tridentate ligand generating compound is represented by the formula:



wherein R_4 is a radical that contains an oxygen based functional group selected from an alcohol, an aldehyde, a ketone, or an epoxide and R_5 and R_9 are alkyl radicals.

16. (Currently amended) The polymerization catalyst of claim 14 wherein the tridentate ligand generating compound is represented by the formula:



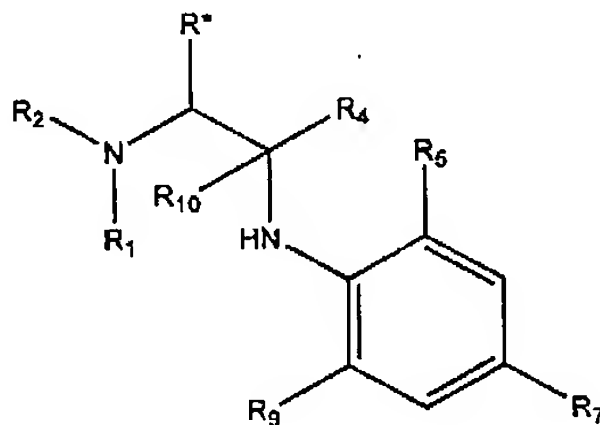
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wherein R_1 is a radical that contains an oxygen based functional group ~~such as an alcohol, an aldehyde, a ketone, an epoxide~~ and R^* , R_4 , R_5 , R_9 , and R_{10} are hydrocarbyl radicals.

17. (Original) The polymerization catalyst of claim 14 wherein the tridentate ligand generating compound is represented by the formula:



wherein R_1 is a radical that contains an oxygen based functional group selected from an alcohol, an aldehyde, a ketone, an epoxide and R^* , R_2 , R_4 , R_5 , R_7 , R_9 , and R_{10} are hydrocarbyl radicals.

18. (Original) The polymerization catalyst of claim 14 wherein the transition metal compound is of a Group 4 metal.
19. (Original) The polymerization catalyst of claim 18 wherein the transition metal is Zr.

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20. (Currently amended) The polymerization catalyst of claim 14 wherein the ~~oxygen containing ligand of the catalyst~~ Group 16 atom, when bonded to the transition metal, forms a ring of 5 to 8 atoms.
21. (Currently amended) The polymerization catalyst of claim 14 wherein the ~~oxygen containing ligand of the catalyst~~ Group 16 atom, when bonded to the transition metal, forms a ring of 5 to 7 atoms.
22. (Currently amended) The polymerization catalyst of claim 14 wherein the ~~oxygen containing ligand of the catalyst~~ Group 16 atom, when bonded to the transition metal, forms a ring of 6 atoms.
23. (Currently amended) The polymerization catalyst of claim 14 wherein the ~~oxygen based functional group radical that contains a~~ Group 16 atom is a ketone.
24. (Currently amended) The polymerization catalyst of claim 14 wherein the ~~oxygen based functional group radical that contains a~~ Group 16 atom is an alcohol.
25. (Original) The polymerization catalyst of claim 14 wherein the a Group 16 atom is a sulfur based functional group.
- 26-27 (Cancelled)